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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference IPB/130606	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DK2004/000806	International filing date *(day/month/year)* 20.11.2004	Priority date *(day/month/year)* 21.11.2003
International Patent Classification (IPC) or both national classification and IPC INV. E06B7/14		
Applicant VKR HOLDING A/S et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
15.09.2005	09.05.2006
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Kofoed, P Telephone No. +49 89 2399-2927

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/DK2004/000806

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-23 as published

Claims, Numbers

1-6 filed with the demand

Drawings, Sheets

1/7-7/7 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-6
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-6
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-6
	No:	Claims	

2. Citations and explanations

   see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following document :

D1: DE-A-43 41 027 D2: US-A-6 664 875

2 The invention relates according to claim 1 to:
A roof window comprising a window frame, a sash frame, an covering and a flashing member, each of the window frame and the sash frame including a top frame member, a bottom frame member and two lateral members, said roof window comprising at least one drainage groove.
Such roof windows having a drainage groove are known in various forms and a relevant prior art may, e.g. be found in either of the documents D1 or D2.

3 The present application meets the requirements for novelty and is inventive for the following reasons (Articles 33(2)&(3) PCT):
The problem may be seen in further developing such a roof window, where the drainage system is improved.
The solution is according to claim 1 essentially given in the application of two concave surfaced drainage grooves, one placed in the walls of the sash frame, the other in the inner walls of the window frame. In this way water from outside and condensed dew can be discharged.

3.1 None of the documents cited in the research report indicate this solution, nor give hints which in combination could lead thereto. Documents D1 and D2, specifically both lack the indication of discharging cumulated water due to penetration of water from outside and therefore has no drainage groove arranged along the inner walls of the window frame.

3.2 The industrial applicability is also given (Article 33(4) PCT).

3.3 Dependent claims 2-6 concern advantageous further developments of the subject-matter according to claim 1, and fulfil therefore as well the requirements of Article 33

PCT as regards novelty, inventive step and industrial applicability.

Amendments 13092005

P A T E N T C L A I M S

1. A roof window comprising a window frame, a sash frame, an covering and a flashing member, each of the window frame and the sash frame including a top frame member, a bottom frame member and two lateral frame members, said roof window comprising at least one drainage groove, c h a r a c t e r i z e d in that a first drainage groove is placed in the walls of the window frame and a second drainage groove is placed in the walls of the sash frame, wherein the first drainage groove has a concave surface, extends along the inner walls of the window frame and includes a flange protruding outwardly from the inner surface of the window frame, and wherein the drainage groove of the sash frame has a concave surface, extends along the outer walls of the sash frame, and includes another flange protruding from the outer surface of the sash frame.

2. A roof window according to claim 1, wherein the first drainage grooves formed in the inner surface of the window frame constitute a complex drainage channel for the window frame, while the second drainage grooves formed in the outer surface of the sash frame constitute another complex drainage channel for the sash frame, and wherein the complex drainage channel for the window frame comprises the drainage grooves formed with the lateral and bottom members of the window frame, while the complex drainage channel for the sash frame comprises the drainage grooves formed with the lateral and bottom members of the sash frame.

3. A roof window according to claim 1 or 2, wherein it further comprises a first sealing surface

on the top surface of the window-frame flange and a second sealing surface on the bottom surface of the sash-frame flange, with a sealing element sandwiched between the first and second sealing surfaces, wherein the drainage groove of the window frame is located correspondingly underneath the drainage groove of the sash frame, with the first sealing surface facing the second sealing surface, so that water overflowing from the sash-frame drainage groove goes into the window-frame drainage groove.

4. A roof window according to any of the claims above, wherein the lower end portion of the drainage groove has a width which is reduced as the position for measuring the width approaches the bottom member of the window frame, wherein the lower end portions of the drainage grooves on the lateral frame members of the sash frame has a curvature upwardly towards the top surface of the bottom frame member of the sash frame, and wherein the lower end portions of the drainage grooves have a width which is reduced as the position for measuring the width approaches the bottom member of the window frame.

5. A roof window according to any one of the preceding claims, wherein the cross section of the drainage-groove surface of the lateral frame members of the window frame is formed by linear sections, curved sections and/or combinations thereof, wherein the cross section of the drainage-groove surface of the top frame members of the window frame is formed by linear sections, curved sections and/or combinations thereof, wherein the cross section of the drainage-groove surface of the lateral frame member of the sash frame consists of a portion of the outer

wall surface of the sash frame and a portion of the top surface of the flange of the sash frame, wherein the top surface can be inwardly inclined down, wherein the cross section of the drainage-groove surface of the top frame member of the sash frame consists of a portion of the outer wall surface of the sash frame and a portion of the top surface of the flange of the sash frame, wherein the top surface is flat, wherein the inner surface of the bottom frame member of the window frame is provided with a separate reservoir for receiving rain, dew and condensate from the pane, wherein the bottom surface of the separate reservoir is flat and ended with a flange formed with the inner surface of the bottom frame member of the window frame, wherein the top surface of the flange defines a sealing surface facing a corresponding sealing surface defined on the bottom frame member of the sash frame, with a sealing element sandwiched between the sealing surfaces, wherein the separate reservoir ends with the flanges of the drainage grooves of the lateral frame members of the window frame.

6. A roof window according to any one of the preceding claims, wherein a horizontal drainage groove is positioned on the top surface of the bottom frame member of the sash frame and communicate with two exits placed at both ends of the lateral frame members of the sash frame and be communicating with a flashing member, wherein a mounting groove is formed in the bottom frame member of the window frame, with an end of the bottom-frame covering and an end of the flashing member hanged in that mounting groove, and the bottom-frame covering overlaps the flashing mem-

ber, and thereby the drainage water from the window frame can be discharged from the covering to the flashing member, wherein the drainage groove of the lateral frame members of the sash frame extend to the top surface of the bottom frame member of the sash frame, from which the drainage water can be discharged to the flashing member.